AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A vector modulator, comprising:

a first ~~amplitude invariant~~ phase shifter to shift a phase of an input signal within a shifting range of 0° ~ 360°;

a hybrid coupler to separate an output of the first ~~amplitude invariant~~ phase shifter into first and second channel signals, wherein the first channel signal is an I channel signal and the second channel signal is a Q channel signal that is phase shifted approximately 90° from the I channel signal;

a second amplitude invariant phase shifter to shift a phase of the first channel signal;

a third amplitude invariant phase shifter to shift a phase of the second channel signal; and

a combiner that receives and combines signals from the second and third invariant phase shifters and provides an output, wherein the first phase shifter, the second amplitude invariant phase shifter, and the third amplitude invariant phase ~~shifters~~ shifter, respectively, shift within first, second, and third prescribed shifting ranges.

2. (Original) The vector modulator of claim 1, wherein the coupler is quadrature hybrid coupler selected from one of a branch line, a Lange coupler, and a Wilkinson divider.

3. (Currently Amended) The vector modulator of claim 1, wherein the first ~~amplitude invariant~~ phase shifter delays the input signal by fixed intervals within a first prescribed shifting range of approximately 0°~360°.

4. (Original) The vector modulator of claim 1, wherein the second amplitude invariant phase shifter delays the first channel signal by a prescribed phase within a variable phase range of approximately 0°~ 90°.

5. (Original) The vector modulator of claim 1, wherein the third amplitude invariant phase shifter delays the second channel signal by a prescribed phase within a variable phase range of approximately 0°~90°.

6. (Currently Amended) The vector modulator of claim 1, wherein each of the first phase shifter, the second amplitude invariant phase shifter and the third amplitude invariant phase ~~shifters is~~ shifter comprise a reflection type amplitude invariant phase shifter.

7. (Currently Amended) The vector modulator of claim 6, wherein each of the first phase shifter, the second amplitude invariant phase shifter and the third amplitude invariant phase ~~shifters~~ shifter includes at least one PIN diode and a hybrid coupler.

8. (Currently Amended) The vector modulator of claim 6, wherein each of the first phase shifter, the second amplitude invariant phase shifter and the third amplitude invariant phase ~~shifters~~ shifter includes at least one varactor diode and a hybrid coupler.

9. (Currently Amended) The vector modulator of claim 6, wherein each of the first phase shifter, the second amplitude invariant phase shifter and the third amplitude invariant phase ~~shifters~~ shifter includes at least one PIN diode and a circulator.

10. (Cancelled)

11. (Currently Amended) The vector modulator of claim 1, wherein the combiner calculates a vector sum, wherein the first ~~amplitude invariant~~ phase shifter delays the input signal by fixed intervals within the first prescribed shifting range, wherein the second and third amplitude invariant phase shifters delay the first and second channel signals by first and second phases within the second and third prescribed shifting ranges respectively, and wherein the second and third prescribed shifting ranges are variable.

12. (Cancelled)

13. (Previously Presented) A vector modulator, comprising

a first amplitude invariant phase shifter for shifting a phase of a received signal at prescribed intervals within a phase shifting range of approximately 0°~360°;

a quadrature hybrid coupler for separating an output of the first amplitude invariant phase shifter into I and Q channel signals shifted substantially 90° in phase relative to each other;

a second amplitude invariant phase shifter for shifting a phase of the I channel signal by a first amplitude within a phase shifting range of approximately 0°~90°;

a third amplitude invariant phase shifter for shifting a phase of the Q channel signal by a second amplitude within a phase shifting range of approximately 0°~90°; and

a combiner for receiving signals from the second and third amplitude invariant phase shifters and calculating a vector sum thereof, wherein the first, second, and third amplitude invariant phase shifters respectively shift within first, second, and third prescribed shifting ranges.

14. (Original) The vector modulator of claim 13, wherein the first, second, and third amplitude invariant phase shifters are reflection type amplitude invariant phase shifters, and the first amplitude invariant phase shifter delays the input signal by fixed intervals within a first

prescribed shifting range, and the second and third amplitude invariant phase shifters delay the I and Q channel signals by first and second phases within a variable phase range, respectively.

15. (Previously Presented) A circuit for a high power amplifier, comprising:

a divider to divide an input signal into a first signal and a second signal;

vector modulator to receive the first signal and a control signal and output a vector modulated signal;

an amplifier to amplify the vector modulated signal;

a directional coupler to receive a signal from the amplifier and generate a reference signal;

a delay to delay the second signal by a prescribed time period; and

a fast phase-amplitude controller to compare amplitudes and phases of the reference signal and the delayed second signal to provide the control signal, wherein the vector modulator comprises:

a first amplitude invariant phase shifter to shift a phase of the first signal within a first prescribed shifting range;

a coupler to separate an output of the first amplitude invariant phase shifter into I and Q channel signals having approximately a 90° phase difference relative to each other;

a second amplitude invariant phase shifter to shift a phase of the first channel signal by a first fixed amplitude within a second prescribed shifting range;

a third amplitude invariant phase shifter to shift a phase of the second channel signal by a second fixed amplitude within a third prescribed shifting range; and

a combiner to receive signals from the second and third invariant phase shifters and calculate a vector sum thereof and generate the vector modulated signal.

16. (Cancelled)

17. (Previously Presented) The circuit of claim 15, wherein the first amplitude invariant phase shifter delays the first signal at fixed intervals within a shifting range of approximately $0° \sim 360°$.

18. (Previously Presented) The circuit of claim 15, wherein the second amplitude invariant phase shifter delays the first channel signal by a phase within a phase shifting range of approximately $0° \sim 90°$, and wherein the third amplitude invariant phase shifter delays the second channel signal by a phase within a phase shifting range of approximately $0° \sim 90°$.

19. (Original) The circuit of claim 15, wherein the vector modulated signal has a phase in the range of $0° \sim 360°$ in a polar coordinate system.

20. (Currently Amended) The vector modulator of claim 1, wherein the first ~~amplitude invariant~~ phase shifter adjusts a distribution of signals outputted from a combiner in a polar coordinate system by adjusting phases of incoming signals.

21. (Cancelled)

22. (Currently Amended) The vector modulator of claim 13, wherein the combiner calculates a vector sum, wherein the first ~~amplitude invariant~~ phase shifter delays the input signal by fixed intervals within the first prescribed shifting range, wherein the second and third amplitude invariant phase shifters delay the first and second channel signals by first and second phases within the second and third prescribed shifting ranges respectively, and wherein the second and third prescribed shifting ranges are variable.